



The Official Newsletter of the Gwinnett Amateur Radio Society

2021 <http://www.gars.org/> Volume 31, Issue 11



The

# GARzette

November 2021 GARS Meeting: Current status of the HamSCI projects – Dr. Nathaniel A. Frissell Ph.D. W2NAF



## The Georgia QSO Party



GARS meeting Tuesday, November 9, 2021 at 7:00 pm

## President's Message

### From the President...

**Ham Of the Year** – Thank you for your nominations for this prestigious award. All of the nominees are excellent contenders, being GARS volunteers who've served our club and the Ham community with heart. I am looking forward to recognizing that individual at our December Holiday gathering. Until then, mums the word.



**Lawrenceville Hamfest** - The volunteer list is a bit lite, but the enthusiasm for getting out to a well-known, local Hamfest is apparent in speaking with folks and hearing chatter on the air. The GARS booth always seems to have numerous visitors and many thanks go to the '*popcorn people*' who kept the air and table filled with that aroma of freshly popped popcorn. That makes it really hard to resist stopping by and paying a visit to the GARS table. I hope to see you there.

**Workshop** – Our next few Workshops have been planned, and all look interesting. We do, however, have a current need for a Workshop Chairman. Dallas, N4DDM has been assisting with all aspects of the workshop's operations. A Workshop Chairman is needed to brainstorm and help plan for the future workshop topics, including to facilitate the workshop with introductions for any guest speaker. Dallas is a great resource and bends over backward to make each workshop successful. So please consider helping him out.

**ARRL Scholarship** – The ARRL just sent out a notification of their scholarship opportunities to its membership, stating the ARRL Foundation scholarship application period for the academic year 2022-2023 opened on November 1st and ends on December 31, 2021. There will be **130 scholarships** which will be offered, totaling \$900,000! Specifically, there are twenty \$25,000 scholarships, four \$15,000, seventeen \$10,000 scholarships, and nine \$5,000 scholarships as well as dozens of \$1,000 and \$500 scholarships.

So, to all GARS Family members, if you have a child or know a student who qualifies, then I encourage you to make application to benefit from

this program. Only amateur radio operator students may apply and the chances of being selected for a scholarship are good.

See: <http://www.arrl.org/scholarship-descriptions> for further information on what it takes to potentially receive this opportunity.

Your Gwinnett Amateur Radio Society Club contributes each year to this ARRL

Scholarship program through your donations. And because of recent donations, including Silent Key ones, we're in a better position to give even more now. See also:

<http://www.arrl.org/scholarship-application> to apply for an opportunity at one of the 130 scholarships. It only takes a simple online application to apply.

**JAMBOREE ON THE AIR (JOTA)** - The annual JOTA event of the Scouts BSA took place at the VFW Post on Grayson Highway in Lawrenceville. Assisted by numerous members of GARS, scouts learned the basics of radio operation and put this in use to earn a Radio Merit Badge. Thanks to Steve Back, WB2OGY, for his tireless dedication to this activity and many thanks to the numerous volunteers needed to host this event.

**Volunteer** – the role of a GARS volunteer is someone who contributes their time, skills and experience to our club. In return, you get the satisfaction of working with some really great folks, and having fun in the process. Next month I'll reveal a few volunteer opportunities we have open, so don't everyone apply at once. Well, actually, please do!

Have a Happy, Healthy November & a Happy Thanksgiving!

73,

*Joe Biddle, AD4PZ*

**Club President**

## GARS Meetings & Workshops

### GARS Meetings and Workshops

GARS Meetings and Workshops are held in-person at the EAA 690 Hangar. Zoom simulcast of Meeting & Workshop information will be listed on <http://www.gars.org>.

Meetings and Workshops are OPEN to all, feel free to share your invite with others.

#### GARS Virtual Login and Zoom Etiquette

Zoom login info will be posted to <http://www.gars.org> prior to the meeting.

- Workshops and Meetings will be **recorded**. By participating you consent to being **recorded**.
- Please change your display name to Your **FirstName Call Sign**, e.g. **Hiram W1AW**
- [How to change Your Display Name in Zoom](#)
- Please stay muted until ready to speak. Your space bar works like a PTT for un-muting
- To be fair to everyone, there will be a three minute limit for each person during Q & A
- You may ask questions in chat; **please stay on topic while using chat**.

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#### GARS Meetings Schedule (second Tuesday @ 7:00 PM):

- November 9, 2021 – Current status of the HamSCI projects – Dr. Nathaniel A. Frissell Ph.D. W2NAF
- December - **no Meeting just the GARS Holiday Party**
- January 11, 2022 – TBD

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#### Workshop Schedule (third Tuesday @ 7:00 PM):

- November 16, 2021 - 2m Roll-up J-Pole Antenna - Dallas N4DDM – in-person only
- December - **no Workshop just the GARS Holiday Party**
- January 18, 2022 - Re-capping and tube testing to bring radios back to life - Don Woodward KD4APP

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#### GARS Meeting – November 9, 2021

HamSCI

**HamSCI – The Ionosphere from  
your Backyard  
Dr. Nathaniel A. Frissell W2NAF**

The ionosphere, or the electrically charged atmospheric region responsible for long-distance high-frequency radio propagation, is not a smooth structure as often depicted in textbooks and climatological models. Instead, it is highly dynamic and subject to numerous unexplained small-scale spatial and temporal variabilities. Even with the large, professional-grade observational networks that currently exist, the ionospheric system remains undersampled. In this presentation, we show how the Ham Radio Science Citizen Investigation (HamSCI) is working to design a Personal Space Weather Station (PSWS) that individuals can place in their own backyards, make observations that contribute to the advancement of ionospheric science, and benefit their own personal amateur radio operations.

Dr. Nathaniel Frissell, W2NAF, is an Assistant Professor of Physics and Engineering at The University of Scranton. Nathaniel's passion for radio and radio science began in middle school when he was introduced to the amateur radio hobby through scouting. He eventually went on to earn his B.S. in Music Education and Physics from Montclair State

University, and M.S. and Ph.D. in Electrical Engineering from Virginia Tech working in the Virginia Tech Super Dual Auroral Radar Network (SuperDARN) laboratory. Nathaniel founded and now leads the Ham Radio Science Citizen Investigation (HamSCI) citizen science collective.

#### GARS Workshop – November 16, 2021

**2m Roll-up J-Pole Antenna  
Dallas N4DDM**

*This will be a Non-Zoom, In-Person, Workshop at the EAA Hangar*

We will start off by briefly going over the theory of operation on how to use a quarter wave matching section to make a J-pole antenna and to calculate the length of the radiating element. Then we break out our hand tools to build a 450-ohm window line Roll-up J-Pole antenna so bring your soldering equipment and hand tools. The finished product will be a useful portable 2m J-Pole antenna.

#### Bill of Materials:

- 65 inches of 450-ohm window line
- PL-259 or BNC connector
- UG-175 (RG-58) or UG-176 (RG-8x or RG-59) reducers
- 18-20 feet of coax, RG-58 or RG-8x

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### GARS Communication

<b>2 Meter Repeaters</b>  147.075(+) MHz Tone 82.5 147.255(+) MHz Tone 107.2  <b>1.25 Meter Repeater</b>  224.580(-) MHz Tone 100.0, 1.6 MHz Offset  <b>70 Cm Repeaters</b>  444.525(+) MHz Tone 82.5 442.100(+) MHz Tone 100 442.325(+) MHz Tone 100	<b>6 Meter Repeater</b>  53.110 (-1 MHz) No Tone (Offline for Maintenance)  <b>Other Resources:</b>  <b>APRS</b>  144.390 -- 1200 Baud W4GR  <b>D-STAR</b>  WD4STR 145.060 + (1.4 MHz) 440.550 + (5 MHz)
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**Don't forget  
to support our  
advertisers at the  
back of the  
GARzette.**

Snail Mail Address:

GARS  
P.O. Box 492531  
Lawrenceville, GA 30049

### Notable Web Links

Ham Radio Glossary: <https://noji.com/hamradio/glossary.php> a very comprehensive listing provided by Noji Ratzlaff KNØJL. On his site there is also a lot of information about getting started in ham radio.

### Need Help – Let GARS Elmers answer your questions

Send an email to [elmers@gars.org](mailto:elmers@gars.org) with the subject listing the area (like Antennas, Repeaters, Digital, DMR etc.) of your query to get to GARS Elmer volunteers.

The *GARzette* is the official monthly newsletter of the Gwinnett Amateur Radio Society, serving its members and other persons interested in the advancement of the Amateur Radio art.

Original articles, art, and photos are invited and encouraged. Previously copyrighted submissions cannot be accepted for reprinting unless permission from the appropriate publisher is provided in writing along with the information being submitted. If reprints are from publications allowing their unrestricted use, please include a copy of the printed permission contained in the publication.

If possible, bring your articles to the monthly meeting in Microsoft Word or rich text (.rtf) or text or HTML format or by e-mail to [editor@gars.org](mailto:editor@gars.org). Artwork can be accepted in most any graphics format and can be submitted via e-mail to the same address. Alternate means of submittal can be arranged when necessary.

In keeping with the Amateur Radio spirit, permission is hereby granted for the reproduction of The *GARzette* articles by other Amateur Radio club newsletters provided that proper credit is given to the individual author and *The GARzette*.

*The GARzette* is published each month with the assistance of Karen KI4HPP and Kyle W4KDA who print copies for distribution at meetings, etc. and Dave Bruse, W4DTR, who distributes the newsletter electronically.

Deadline for submissions is the 28th of each month for inclusion in the following month's issue.

For additional information view our Website at: <http://www.gars.org>

Newsletter Email: [editor@gars.org](mailto:editor@gars.org) Editor: Bob Hoffman, K4CQO Assistant Editor: Bill Eggers, WB2RIS



## GARS HELP WANTED

Speakers Needed for GARS Workshop Presentations, 3<sup>rd</sup> Tuesday of the month – Email [workshop@gars.org](mailto:workshop@gars.org) to volunteer. [PS— Articles to publish in the *GARzette*, either written by GARS members or published elsewhere, are always welcome. —Ed.]



## GARS Happenings

**20 Years ago in the November 2021 GARzette:**

- The GARS members participated in the 2001 Gold Rush
- GARS held an auction for the Scholarship fund
- Interesting article on Victor Gann, W4VEG and his work with Venture Crew 73

You can always browse the GARzette archive at <http://www.gars.org/newsletters>  
73, Bob, K4CQO, GARzette Editor



### Health and Wellbeing – Sandy Jackson, KJ4DRO

Look for this resource on [gars.org](http://gars.org) and use it as a means to convey information about a GARS family member or Silent Key notification.

## Net Managers Corner

### Monday Night 2 Meter “Want, Swap, Sell, and Information Net”

#### GARS NEEDS MEMBERS TO SERVE AS NET CONTROL STATIONS!

GARS is a great Amateur Radio service club with the membership and awards to prove it. Our club is very busy and active, and we use the Monday night net to get timely information out to our members. Weekly participation is needed to make our net function well. There is only a small group of very dedicated people who make the net happen each week, and we need more members to volunteer to serve as Net Control Stations (NCS) on a rotating basis.

Out of almost 300 members, there are only seven operators who serve as the NCS for the GARS net every Monday night. In no particular order, they are:

Don – KW4AL	Ray – N4GYN	Bill – WG9NUW	David – KA4KKF
Glen – W3WWT	Russell – AB4QQ	Chuck – KK4TKJ	Charlie – WS4TOT

As GARS Net Manager (Chuck KK4TKJ), I would like to have more volunteers to fill NCS positions. I do plan and post the schedule months in advance. Any conditions will be accommodated that you as a rotating NCS need to place on the scheduling of your duties. If your plans change, I can make adjustments for the schedule to work, and I will make those changes happen as soon as I am notified of a problem. As Net Manager, I also send out reminders each week to let the NCS scheduled know he or she is NCS for the next Monday night net. In short, serving as a rotating NCS is a small duty but a great contribution to the club. The “Want, Swap, Sell Information Net” begins promptly at 19:30 every Monday night and runs about 30 minutes. As a scheduled NCS, you will request the assistance of a volunteer alternate NCS each time you have Net Control. Your simple duties will be to tune in to the GARS repeater, read the script, take a few notes and forward the information to me for record keeping.

Please lend a hand and contact me at [KK4TKJ@arrl.net](mailto:KK4TKJ@arrl.net). Sign up to help support the effort that makes GARS the great club that it is. 73 and see you on the Nets!

## Equipment For Sale by GARS

To see the list of the current offering, Click here>> [GARS Silent Key Sale](#)  
For additional information, send an email to: [forsale@gars.org](mailto:forsale@gars.org).

More to come, so stay tuned. After a short period, we’ll release this list to a wider audience. So, act quickly.

## GARS Elmers Helping GARS Member

Yesterday I stopped by Larry's KB4LWT and Diane's KB4LWS QTH to help get their 40m dipole in the air... It took 3 tries to get the fishing line over the pecan tree in the back and another 3 tries for the pine tree in the front... It was a perfect day for doing antenna work, blue skies, next to no breeze, and mid-70s...

All shots were over the tree but getting the weight to clear the tree and fall close enough to the ground to be within reach was the issue...

I forgot to bring my telescopic poles that I use to grab the weight so I had to duct tape a broom handle to a rake to grab the weight... While getting the rake ready the weight worked itself down on the pecan tree to just below eye level...

On the pine tree, I was able to coax the weight down from about 35' to about 12' where I could snag it with the rake...

Larry had premade the dipole and connected 50' of 450-ohm window line to it before I got there...

With Diane's help, I was able to hoist the antenna in the air and clear the corner of the house...

To keep the window line about 3' away from their gutters they have a fiberglass telescopic pole on a tripod...

Again with Diane's help, I was able to center the dipole right over the telescopic pole...

At each section of the telescopic pole, Larry and I used cable ties to make eyelets for the window line to freely move up and down when the wind is moving the antenna...

We had about 1 foot of window line left at the base of the telescopic pole so that puts the center of the dipole at 49 feet...

Then we spliced the 50' section of window line to the section that goes inside to their tuner and then went inside to see how well the antenna tunes... The tuner settings were a little different than their previous antenna but well within acceptable ranges...

I had a nice visit and hope to hear them on the air...

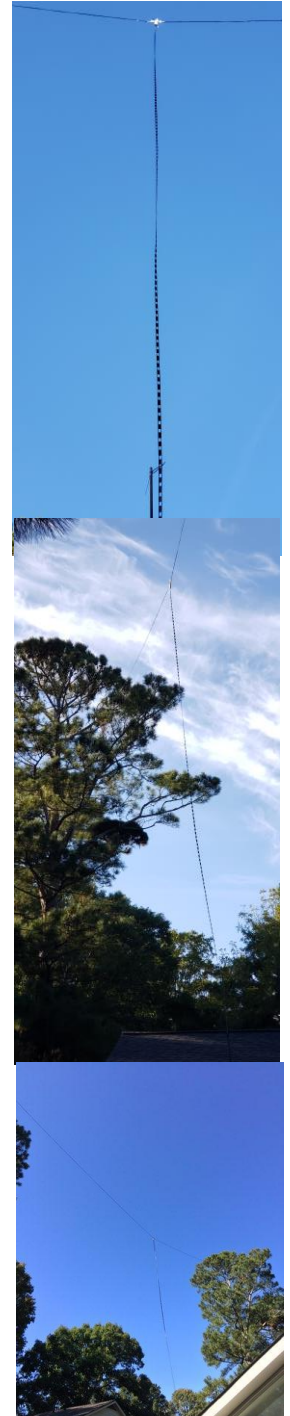
Dallas N4DDM

**From Larry Andrus, KB4LWT**

THANKS!!!

Dallas - N4DDM came to our house to put up our 40 meter dipole. I am 82 and have an arthritic condition that makes it impossible for me to look up or get about without aid of a walker or cane. Dallas did a great job putting up the dipole. He got the antenna up 50 ft and positioned it in a perfect spot. It only took him three tries per tree to get the antenna ropes between the two trees that he had selected. Dallas worked over 4 hours on getting up the 40 meter dipole and positioning it just right. Dallas really knows his stuff. Thank you for having elmers dedicated to helping others play with Amateur Radio. I am glad that Diane - KB4LWS and I are member of GARS. 73, Larry - KB4LWT

**Let GARS Elmers help with your projects or answer your questions, Send an email to [elmers@gars.org](mailto:elmers@gars.org).**





## JAMBOREE ON THE AIR (JOTA)

### JAMBOREE ON THE AIR (JOTA) was held on October



Thanks to all GARS and ARES members who helped with Jamboree On The Air (JOTA) this year. JOTA is the worlds largest Scouting event held the third weekend of October every year. This year GARS continued our tradition of supporting JOTA be setting up several demonstration stations at the Lawrenceville VFW. Almost 30 youth earned the Scouts BSA Radio Merit Badge and learned about Amateur Radio,



Although turn out was down from previous years, those who attended had a good time and we hope some will eventually earn licenses.



## Stone Mountain Hamfest

### STONE MOUNTAIN HAMFEST

*and ARRL State Convention  
including VE Testing*

**Nov. 6-7, 2021**

**Sat: 8 a.m. – 4 p.m.**

**Sun: 8 a.m. – 2 p.m.**

#### Stone Mountain Hamfest

[Ticket Booth](#) | [Prizes](#) | [Forums](#) | [VE Testing](#) | [Volunteer Sign-up](#)

## October HamCram Results

We had a great exam session at our Technician Ham Cram Class. 10 out of 10 applicants passed! Congratulations to John, WB4QDX and Ralph, KJ4CNC for another job **WELL DONE!!!**

Exam session results:

- 10 new Technicians

Special thanks to the Volunteer Examiners who made this exam session possible:

Pam, WB1AKQ  
Earl, AF4FG  
Bill, WB4WTN  
Richard, KM4SWL  
Jamie, KX4HA  
Frank, KV4SP  
Chuck, KK4TKJ (Co-CVE)  
Bill, WR1TR  
John, WB4QDX  
Ralph, KJ4CNC

Thanks & 73,

Dave Bruse, W4DTR (CVE)  
GARS VE Team Leader  
Email: [exams@gars.org](mailto:exams@gars.org)

## GARS Holiday Party

Dec. 4th at 1800(6:00pm) at the EAA Hanger. There will be a short meeting and presentation of Ham of the Year award.

Visit [gars.org](http://gars.org) to sign up for the Holiday Party and further information.

There is no regular meeting in December on the second Tuesday.

The next regular meeting for GARS is January, the second Tuesday of the month.



## **DX Milestone and Hints**

**Bob Hensey, K4VBM**, reach a milestone, his **200<sup>th</sup> DX contact**. Guinea-Bissau, J5HKT, confirmed! 200 feels good, but so many more to go ...

Here are Bob's DXing TIPS ...

Get on the radio as much as possible (easier when you are retired), but make time if only 30 minutes when you can

Be willing to operate at any time during a 24 hour day (especially gray line in morning and evening) - I have worked DX at all times during a day

Use a spotting network - my favorite is dxsummit.fi, but there are many others

Don't give up in a pile-up - but listen to who the DX station is working, and see if you can figure out where he/she is listening - then find an open spot near there and call him

Listen to where other stations are calling and try to find an open spot so you have a better chance of being heard by the DX - this is especially true for CW and Phone. Sometimes you can't hear the other chasers, but when you can, LISTEN every so often and adjust your TX frequency

Be prepared to do any mode (CW, Phone, Digital)

Of course, power and fancy antennas can help, but you CAN work DX with

100 watts and a wire antenna (my own situation) - with skill you can beat the fancy stations and log that rare one even with a modest station

Learn how to properly operate your radio in SPLIT mode - sometimes a DX station will work simplex (listening on their TX frequency), but most often they listen UP (anywhere between 1 kHz and 15 kHz above where the DX is transmitting). In theory, this keeps the DX station frequency clear for everyone to hear him clearly whenever he/she transmits, but there are 'LIDS' that will tune-up or transmit on the DX frequency obscuring his/her signal and preventing that rare QSO from completing. That is why you will hear 'UP UP' on or near the DX frequency from the DX 'cops' to remind the fools that they are inconsiderately QRMing the DX station. When you use SPLIT mode on your radio, you listen on one frequency (usually VFO A) and transmit on another frequency (usually VFO B), and so you adjust your transmit frequency on VFO B to be in the clear and hopefully where the DX station is listening. You may/will change your TX frequency often while chasing and listening to make sure no one is doubling with you on your TX frequency. Just keep trying and DON'T GIVE UP for as long as you can hear the DX station, and you have time.

Don't tune-up on the DX frequency - never ever

Don't transmit on the DX frequency unless you are positive they are operating simplex

If you can't hear the DX station, don't call him (you're making QRM and possibly preventing someone else who CAN hear him make a QSO)

I probably forgot some things, but hey, I have a Very Bad Memory.

I sincerely wish everyone that grand moment when the DX stations transmits your own call sign and a signal report, but even better is that TU (Thank you) or RR73, cause when you hear that you know you're "IN THE LOG"

There are 3 ways to know when a DX station is working simplex or split.

1. The spot mentions it (UP implies split, UP 1 implies 1kHz up, 5 UP, etc.), simplex is self-explanatory). Yes, when you spot a DX, besides the frequency and mode, you should mention 'split' or 'UP 1' or 'simplex'. Some people also mention the frequency they were using for TX when they made their



The

contact - this is helpful to know where the DX station is listening. Generally, for CW the split distance is 1 kHz, and for SSB it is 5 or 10 kHz.

2. The DX station will mention it whenever they ID (identify). Example: HD8R UP, or 7P8RU 10 UP, D60AC listening 5 UP, etc. Sometimes they will mention a range, say 1-3 up, or 5-10 up which is done to spread out

the callers a bit and make it easier for the DX station to pick out a call sign.

3. This method uses your brain. Listen on the DX transmit frequency for awhile. Are tons of stations calling him on his transmit frequency? If not, then he/she is working split.

And split is the more common thing that you will find with DX stations, because once again this method allows the calling stations to hear the DX station on a clear frequency allowing faster QSOs.

If you hear tons (not 1 or 2 idiots now) of folks calling the DX station on his transmit frequency, then he is working simplex. Simplex is somewhat unusual, but does happen on occasion.

Good luck and happy DXing!

Bob Hensey

K4VBM (Very Bad Memory)

**The entire article is available on-line, see**

**[http://www.gars.org/newsletters/2021\\_11\\_GARZETTE.pdf](http://www.gars.org/newsletters/2021_11_GARZETTE.pdf)**

## Heathkit SB-100 Line

### Vintage Amateur Radio

#### Heathkit SB-100 Line - Heathkit Does Collins One Better

de Bill Shadid, W9MXQ



Some months ago, earlier in this series of Vintage Amateur Radio Articles, I talked about “The Day the Universe

Changed,” a phrase coined by historian, James Burke,<sup>1</sup> and how it related to the Collins Radio Company introducing the game changing S-Line 75S-1 Receiver, 32S-1 Transmitter, and the KWM-2 Transceiver. As you have seen in my various articles, this triggered a response from nearly all the established, and some new, amateur radio equipment manufacturers. While there were a lot of products and many versions of the Collins concept of the new age in radio equipment, perhaps no one went after the concept more intensely than The Heath Company – or as

we know them, Heathkit. So, for this article we will start the discussion of the extremely popular Heathkit “SB-Line.”

Heathkit, in 1965, introduced the first of their competitive radios with the SB-100 Transceiver<sup>2</sup> in direct competition to the Collins KWM-2. The radios were nearly identical in specifications and even physical size and layout. Heathkit even used the concept of a permeability tuned oscillator – variable inductance tuned oscillator or PTO – for the VFO rather than the more common capacitively tuned oscillator. This was a hallmark of Collins’ design. (Actually, in the ham radio field of the time, both Heathkit and Drake followed Collins’ lead in this circuitry.)

The SB-100 was a 180-watt input SSB and CW Transceiver – just as was the Collins KWM-2. The two radios were nearly identical in size – but the Heathkit enjoyed a very large monetary savings for the amateur radio operator by being offered only as a kit to be assembled by the user. The Heathkit SB-100 was priced at only a fraction of the cost of the Collins KWM-2 back in 1965. And, Heathkit was widely known for the design quality of its kits with their “We won’t let you fail!” business philosophy.

Here is the operating Heathkit SB-101 Transceiver at W9MXQ: (The SB-101 superseded the SB-100 but they are very difficult to distinguish from each other as noted later.)



**Heathkit SB-101 (successor to the SB-100) with SB-600 Speaker. Shown with HP-23 AC Power Supply mounted inside of the SB-600 (out of view) (W9MXQ Shack Photo)**

To get a better idea of the physical similarities in the front panel controls and physical size of the Heathkit SB-101 and the Collins KWM-2, look at these two radios at W9MXQ for your reference:





**Heathkit SB-101 HF Transceiver**



**Collins KWM-2A HF Transceiver**

Both Radios – W9MXQ Radio Collection

One difference visible in the above views is the main tuning dial. You will note the band spread dial at the top of the readout area on the Heathkit along with the main tuning dial calibrated 0-500 (for a 500 kHz band segment). The upper, horizontal, dial indicated a rough approximation of the moving across the 500 kHz tuning range. The lower, round dial showed the exact, down to 1 kHz markings, of the place in that range. The round dial included a spiral “gear” that moved the indicator on the horizontal drive. Well assembled radios showed a very accurate mechanism with good linearity across the 500 kHz range.

Collins used a different, but no less effective, dial mechanism with two disks in an epicyclical drive mechanism. You can see the numbers in the dial and see a separate disk with white colored, opaque covers to only allow certain numbers to show in different revolutions. So that dial would move from 1-200 kHz over multiple revolutions with only the correct 10 kHz numbers showing as the knob was turned. Also see that Collins used 0-200 ranges instead of the 0-500 range for the individual bands. So, for instance, on 40 meters, the Heathkit would scale from 7.000 MHz to 7.500 MHz whereas the Collins, with its 200 kHz ranges would cover 40 meters in two band positions – 7.000 to 7.200 kHz and 7.200 kHz to 7.400 kHz. This is perhaps a bit inconvenient but on a band like 10 meters, it could get very inconvenient.

The reason for the narrow band coverage on the Collins radio addressed an issue with analog tuning of the day – linearity. The Collins design allowed for perhaps a single setting with the crystal calibrator at any place in the 200 kHz range and the readout would be accurate, or darn close, along the entire range. The typical 500 kHz range used by Heathkit (and most other manufacturers of the day) were not so linear along a 500 kHz run in frequency range. Heathkit was better than some of the others but Collins did have the right idea – even if it was a bit inconvenient.

Both radios use a similar final amplifier arrangement with loading set at a range of 50-75 ohms impedance – designed to feed modern coaxial cable. These radios would not work well with linear amplifiers that did not have a tuned input network. So, the modern, at the time, SB-100 and its successors, did not work well with older Heathkit Linear Amplifiers, such as the HA-10 Warrior. The final amplifier tubes used in the SB-100 Series Transceivers were two of the very popular 6146A or 6146B tetrode final amplifier tubes for an input power of 180 watts PEP SSB and CW. Like the Collins KWM-2, these radios were not really designed for AM operation. Output power was a nominal 100 watts. Tuning of the driver and final amplifier stages of the transmitter section of the transceiver was relatively straight forward and easy even for today’s amateur operators to master.

Heathkit provided a complete line of accessories for the SB-Series Radios (including a complete line of separate receivers and transmitters<sup>2</sup>). Most of the most popular accessories appear in the pictures, below . . .



**SB-200 1.2-Kilowatt  
Linear Amplifier<sup>3</sup>**



**SB-220 2-Kilowatt  
Linear Amplifier<sup>3</sup>**



**SB-640 External VFO**  
(Heathkit Catalog)



**HP-23(x) AC Power  
Supply**  
(for SB-100 Series Radios)



**HP-13(x) DC (Mobile)  
Power Supply**  
(for SB-100 Series Radios)  
(HP-13 Assembly Manual)



**SB-600 Speaker  
Console**



**SB-610 Monitor  
Scope**



**SB-620 Spectrum  
Scope**



**SB-500 Two-Meter  
Transverter**  
(Heathkit Catalog)



**SB-630 Station  
Console**



**HD-1410 Electronic  
Keyer**



**SB-650 Digital Readout**  
(for SB-100 Series Radios)  
(Heathkit Catalog)

(Pictures, unless otherwise noted, are from W9MXQ Photographs)

Virtually all the accessories, were compatible with most other brands of radios of the day, except for frequency related items such as the SB-640 External VFO, the SB-620 Spectrum Scope, the SB-500 Two-Meter Transverter, and the SB-650 Digital Readout. But some enterprising hams found ways around even that restriction. The SB-200 and SB-220 Linear Amplifiers were some of Heathkit's most popular products and operate today in large numbers<sup>3</sup>. As implied earlier in this article, the sizes of the Heathkit items, including the transceiver itself, matched the Collins sizing almost perfectly. The only difference for a good match was the green on green colors of the Heathkit vs the gray on gray colors of the Collins.

There are some simplicities in the Heathkit design. In the left picture below, see the overall main circuit board that contains all vacuum tube and interstage wiring – there are few interconnection wires in this

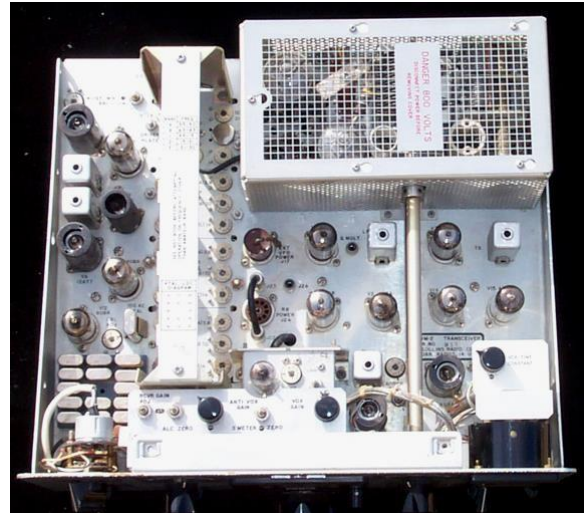


transceiver, as you can see. The Collins, in the left picture below, has a clean and overall classically simple appearance – perhaps enhanced by the metal chassis color compared to the brown circuit boards in the Heathkit. Also note the multistage ganged variable capacitors at the left center of the Heathkit. These are replaced by a multistage ganged group of variable inductors in the Collins radio that are visible under a cover running from the front to the back of the radio just to the left of center in the view shown below. Collins had a much more elegant (and expensive) design. Collins was good at small details – such as the way the top cover of the power amplifier shield was affixed. Note that the fastening screws would be loosened then the cover would slide left then lift off – without the need to remove (and perhaps misplace) those screws. Collins equipment is full of such fine touches in design.



**Top Interior View Top Interior View**

**Heathkit SB-100 Series Transceiver**



**Collins KWM-2 Transceiver**

(W9MXQ Collection Pictures)

Both radios have a lock down top cover that swings open from a hinge along the rear of the cabinet. The illustration of the Heathkit, above, has the radio sitting in the cabinet with the top open so you can just spot the hinge at the right, rear. The Collins picture shows the radio completely removed from its cabinet – with no hinge visible. The Heathkit top fasteners were on the upper left and right sides of the top cover. The Collins cover locked down along the front edge of the top cover – you can see the fastener holes toward the front in the above picture of the Collins radio,

There were three versions of the SB-100 Transceiver. They were known by the following differences .

- SB-100 Transceiver (1965-1967) – the initial release of the radio. Effectively duplicates most performance specifications of the Collins KWM-2.
- SB-101 Transceiver (1967-1970) –The SB-101 added the ability to switch in and out a 400 Hz CW filter. That switch is ganged with the RF Gain control on the front panel. The SB-101 added some additional phono jacks on the back to more easily accommodate the SB-650 Digital Readout and the SB-500 Transverter.
- SB-102 Transceiver (1970-1975) – this model is the most numerous. The SB-102 improved sensitivity from 1 uV to 0.35 uV by replacing the RF Amplifier 6AU6 with a 6HS6. (6HS6 tubes are hard to find today so many SB-102's have reverted back to the direct plug-in replacement 6AU6.) There was a kit offered at the time to convert the SB-101 to an SB-102<sup>5</sup> with the increased sensitivity of the later model.

There was no SB-103 offered for sale, but Heathkit made a quantum leap with the introduction of the



all solid-state SB-104<sup>3</sup> that we will talk about it a future article.

The one item that can impact finding a good SB-100, SB-101, SB-102, or any Heathkit, is to remember that most of them are assembled by the owner. So, finding a used one puts the buyer at the mercy of the talent and care of the original builder. Look carefully for damaged components, burned wires, and quality of soldering. While the SB series were economical, they were not cheap. So, given the size of the initial investment, it is not impossible to find finely made equipment. My SB-101 Transceiver and my SB-200 Linear Amplifier were expertly assembled. (In fact, my SB-200 is a very rare, factory assembled unit<sup>4</sup>.) However, I have three HP-23 AC Power Supplies at W9MXQ. One is very well done (and is used with my SB-101), the second is sloppily wired and stored for parts, and the third one was so poorly made it caught fire in its initial test! That last one is destined to be completely rebuilt with perhaps only the original power transformer, chassis, and hardware being left in the finished unit.

If there is one Heathkit failing it is in the area of color matching. Especially the darker (front panel) green they used over the years. It is not unusual today to encounter an SB100 Transceiver, an SB-600 Speaker, an SB-640 External VFO, and an SB-200 Linear Amplifier in a vintage station with all showing distinctly different shades of front panel green. In my opinion as a collector of many brands, Hallicrafters and Collins were the best at color matching over the long term. National and Heathkit may have been among the worst. At the same time, we must remember that this is not a reflection on the technical quality of their products.

Heathkit leveraged the SB-100 series designs to make the very economical HW-100 and HW-101 series HF Transceivers<sup>3</sup> that we will cover in the future. That is a most interesting story. Late versions of the Heathkit catalog (the Heath Company in Benton Harbor, Michigan) always said that the HW-101 Transceiver was most popular and numerous ever made. They are still present in abundance and can be found at almost every hamfest that I attend.

Remember that the Heathkit SB-Line Transceivers (including the separate SB Line Receivers and Transmitters<sup>3</sup>), when carefully built, were the equal of or were superior to any of the fully assembled competitive units on the market at the time.

I appreciate that you read my articles. Remember that I am open to questions and comments anytime at my email address, [W9MXQ@TWC.com](mailto:W9MXQ@TWC.com).

A special note of thanks to my proofreader, Bob Bailey, W9DYQ.

#### Credits and Comments:

<sup>1</sup> [https://en.wikipedia.org/wiki/James\\_Burke\\_%28science\\_historian%29](https://en.wikipedia.org/wiki/James_Burke_%28science_historian%29)

<sup>2</sup> The first of the SB-Line was the SB-110, 6-Meter Transceiver – that was an SB-100 look alike. Due to some supplier issues it was released about six months ahead of the SB-100.

<sup>3</sup> Subject of a future article.

<sup>4</sup> Factory wired SB-101 Transceivers and accessories such as the SB-200 Linear Amplifier can be spotted by their serial label which instead of, for instance, “SB-200,” it will say “SBW-200.” A factory wired SB-101 would be identified as an “SBW-101.” This was a marketing idea by Heathkit to attract customers who wanted the Heathkit radio but did not want to build it. Also, at that time, there were specialists around the country who would, for a fee, assemble any Heathkit for a paying customer.

<sup>5</sup> The SB-102 update for the SB-101 did not accommodate a change in the front panel model number.

© W9MXQ

The entire article is available on-line, see

[http://www.gars.org/newsletters/2021\\_11\\_GARZETTE.pdf](http://www.gars.org/newsletters/2021_11_GARZETTE.pdf)



The

## GARS Membership

### New Members List in October

David Price (W4QDV)

**New Members: 1**

**Total Members as of  
November 1, 2021  
352**

Join GARS members for our weekly breakfast  
gathering at  
7:30 AM most Saturdays  
Now at  
Cracker Barrel Restaurant  
75 Celebration Dr.  
Suwanee, GA 30024

### Birthdays in November

John Bachtel (NR4JB)  
Benjamin Bogard (KM4DE)  
Pamela Brown (KJ4RYV)  
James Burns (KX4HA)  
Julia Collier  
Lasburne Colquhoun (KK4IQG)  
Drake Cullinan (KN4ZEY)  
Anthony De Lucia (W4OG)  
Matthew Dyals (KN4WBL)  
Robert Eybers (KN4WBM)  
Puddin Garrison (KJ4QIB)  
Eddie Geike (AK4WM)  
Colt Goodrum  
Bill Grube (KM4NIM)  
Scott Karlins (KO4NXZ)  
Danny Kelley (KI4KXO)  
Eileen Kelley  
Jack Kempster (KN4QMB)  
John Kludt (K7SYS)  
Al Ludwick (NN4ZZ)  
Andrea Lynch (KM4OKX)  
Chris Mattox (KO4NYB)  
Donna McCord (KM4FMW)  
Kathy Mellichamp  
David Morris (KO4RIQ)  
Nick Nikley (N0NCQ)  
Kevin Scott (K4GTR)  
Andre Steyn (W7ALS)  
Charlotte Stovall  
Lawrence Teper (KN4CGP)  
Jim Webb (W4NTA)  
Nova Whatley (KF4HLG)  
Karen Whited (AB4NW)

### GARS MEMBERSHIP

Your current GARS membership status is shown in the monthly newsletter e-mail towards the bottom of the message.

To become a GARS member, or to renew your GARS membership, please visit our website—  
<http://www.gars.org>

To make changes to your GARS membership (moved, new e-mail address, new phone number, etc.), please e-mail the Membership Committee - [membership@gars.org](mailto:membership@gars.org)

You can renew or update your Amateur Radio license information with the FCC at their website for free  
<http://wireless.fcc.gov/uls/index.htm?job=home>

To update your ARRL information, please visit their website - <http://www.arrl.org>

Membership Chair: Karen Albritton, KI4HPP

Committee Members: Dave Bruse, W4DTR

## Repeater Status

6M	Currently down
147.075	Operational in Snellville
147.255	Operational in Snellville
224.580	Operational in Grayson
442.100	Operational at Goshen Springs
442.325	Operational in Buford
444.525	Operational in Snellville

Link remote receivers being added

## Donating to GARS

Your GARS donation can be used for a certain purpose by donating to one of these funds:

- GARS SK Memorial Fund for Education (to remember and honor Silent Keys);
- GARS Scholarship Fund (Administered by the ARRL for awarding scholarships);
- GARS General Fund (any club purpose).

GARS has joined these rewards programs (a portion of every purchase you make through these merchants may be donated to GARS):

- Amazon Smiles;
- Kroger Community Rewards program.

For more information on how to sign up for these rewards programs, or to donate to GARS, visit

<http://gars.org/gars/donations-to-the-club>

## GARS on Social Media



Discord Request:

<http://gars.org/discord>



Groups.io:

<http://gars.org/groups.io>



Visit GARS on Facebook:

<http://gars.org/facebook>



Follow GARS on Twitter:

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Join GARS on YouTube:

<http://gars.org/youtube>

## Officers



Joe Biddle, President AD4PZ



Jamie Burns, Vice President KX4HA



Bill Hawkins, Secretary WR1TR



Pam Meridy, Treasurer WB1AKQ



Kevin Scott, Program Manager K4GTR

## Managers and Committee Chairs



Karen Albritton, Membership Chair KI4HPP



Dave Bruse, VE Team Leader W4DTR



David Adcock, Webmaster and Field Day Chair KA4KKF



Ralph Pickwick, Apparel Manager and Education Chair KJ4CNC



Glen Wendt, TechFest Chair W3WWT



Bob Hoffmann, GARzette Editor K4CQO



Eddie Foust, Repeater Chair WD4JEM



Mike Weathers, WAS / DXCC QSL Card Checker and Historian ND4V



Chuck McCord, Net Manager KK4TKJ



Steve Back, Technical / RFI Advisor WB2OGY



Kyle Albritton, Multimedia Chair W4KDA



Don Stewart, Elmer Manager KW4AL



Sandy Jackson, Health and Wellbeing KJ4DRO

Open Winter Field Day Chair  
Open Georgia QSO Chair  
Open Workshop Leader

## Directors and Trustees



John Davis, WB4QDX



Rick Cobb, N4XYX



Mike Weathers, ND4V



Bill Cherepy, WB4WTN W4GR Trustee





The

## GARS Meeting Minutes

### Gwinnett Amateur Radio Society – GENERAL

**10/12/2021**

In person and online meeting.

**President Joe Biddle (AD4PZ) and Opened the meeting at 7:00pm and closed the meeting at approximately 9:00pm**

**Participants:** 31 in person – Unknown Online

**Treasurer's Report:** Pam (WB1AKQ)

**New hams and visitors:** Joe (AD4PZ)

- No new hams or licenses

**Membership:** Karen (KI4HPP)

- Karen reported 351 members

**Education and GARS wear:** Ralph (KJ4CNC)

- McConnel Middle School club is doing well.
- School club roundup – listen on HF Wed – Fri, Oct 20-22.
- Asked for volunteer to assist starting a radio club at South Gwinnett Middle School
- Ham Cram at the hangar coming up end of October.
- Reminder that we do not ship GARS wear
- Buy your Hamfest tickets online.

**TechFest:** Glenn (W3WWT)

- TechFest date Jan 15, 9:00 am
- Forward potential vender contact info to Glenn

**Programs:** Kevin (K4GTR)

- October – Favorite internet web sites
- November – Dr. Frazell - Current status of Ham Sci projects
- December – Christmas/holiday party
- January – LDG electronics on antenna tuners

**Workshop:** Dallas (N4DDM)

- October – In person – GARS repeater systems
- November – Roll up J-pole with Dallas

**Other Business:**

- Silent key sale – Brian spoke about the gear available and the ongoing process of sorting and selling.

- Stone Mountain Hamfest is coming. Dave (KA4KKF) asked for volunteers for the Hamfest.
- Dave (W4DTR) requested VE team volunteers for the exams at the Hamfest.
- Steve (WB2OGY) Jamboree On The Air – Oct 16. JOTA will be running from the Lawrenceville VFW post. Starting at about 8:30 am. Help is needed.
- Joe asked for a volunteer Zoom administrator.

**Health and Well Being:** Sandy (KJ4DRO)

- K7SZ Rich Arland has passed. Celebration of life this Saturday 4:00 to 7:00 pm at Alexander Park. Details to come.

**Ham of the Year:** Joe (AD4PXZ)

- Ham of the year nominations need to be in by November 1<sup>st</sup>. Send nominations to [president@gars.org](mailto:president@gars.org)

**Program:** Bill WB4WTN hosted favorite websites

Minutes by Bill Hawkins (WR1TR) Club Secretary.

## Workshop Minutes – October 19, 2021

**Number in Attendance:** 15

**Workshop Topic:** GARS Repeater System

**Presenter:** David Adcock KA4KKF

**Brief Summary:** David talked about the current status of the GARS repeaters, controllers, remote receivers, voters, Echo Link, System Fusion, user commands, and touched on future plans. We had a 2m and 70cm set of duplexers on-site for folks to physically see what a duplexer looks like. David brought the GARS portable 2m repeater.

Submitted by: Dallas N4DDM



The

## Events – GARS and others

### ARRL CONTESTING INFO

From ARRL Contest Calendar  
> For more information click the links <

#### November 2021

6-8 [Nov. Sweepstakes - CW](#)  
20-21 [Nov. Sweepstakes - Phone](#)  
TBD [EME - 50 to 1296 MHz](#)

#### December 2021

3-5 [160 Meter](#)  
11-12 [10 Meter](#)  
19 [Rookie Roundup-CW](#)  
18-19 [EME - 50 to 1296 MHz](#)

#### January 2022

1 [Straight Key Night](#)  
1 [Kid's Day](#)  
8-9 [RTTY Roundup](#)  
15-17 [January VHF Contest](#)

#### February 2022

14-18 [School Club Roundup](#)  
19-20 [International DX – CW](#)

#### March 2022

5-6 [DX Contest -- SSB](#)

#### April 2022

10 [Rookie Roundup – Phone](#)

#### May 2022

No planned contests

#### June 2021

11-13 [June VHF](#)  
18 [Kid's Day](#)  
25-26 [Field Day](#)

#### July 2022

9-10 [IARU HF World Championship](#)

#### August 2022

6-7 [222 MHz and Up Distance Contest](#)  
21-22 [10 GHz & Up – Round 1](#)  
21 [Rookie Roundup – RTTY](#)

#### September 2022

10-12 [September VHF](#)  
17-18 [EME - 2.3 GHz & Up – Round 2](#)  
17-18 [10 GHz & Up – Wknd 1](#)

#### October 2022

17-21 [School Club Roundup](#)  
TBD [EME - 50 to 1296 MHz – Wknd 2](#)

For more information:

<http://www.arrl.org/contest-calendar>

### HAMFEST CALENDAR

[Please confirm the status of a Hamfest before making plans to attend. – Ed.]

10/08/2021 - 10/09/2021

**56th Annual Melbourne Hamfest, ARRL Florida State Convention**

Location: Melbourne, FL

Type: ARRL Convention

Sponsor: Platinum Coast Amateur Radio Society

Website: <http://pcars.org>

10/08/2021 - 10/09/2021

**North Okaloosa Amateur Radio Club Hamfest**

Location: Crestview, FL

Type: ARRL Hamfest

Sponsor: North Okaloosa Amateur Radio Club

Website: <https://w4aaz.org/noarc-hamfest/>

10/16/2021 - **Gulf Coast Amateur Radio Club**

Location: New Port Richey, FL

Type: ARRL Hamfest

Sponsor: Gulf Coast Amateur Radio Club

10/23/2021 - **Deep South Amateur Radio Club**

Location: Chickasaw, AL

Type: ARRL Hamfest

Sponsor: Deep South Amateur Radio Club

Website: <http://k4dsr.com/>

11/06/2021 - 11/07/2021 - **Stone Mountain Hamfest**

Location: Lawrenceville, GA

Type: ARRL Convention

Sponsor: Alford Memorial Radio Club (AMRC)

Website: <https://www.stonemountainhamfest.com>

11/13/2021 - **Sparc Fest**

Location: Pinellas Park, FL

Type: ARRL Hamfest

Sponsor: St. Petersburg ARC

11/20/2021 - **Montgomery ARC Hamfest**

Location: Montgomery, AL

Type: ARRL Hamfest

Sponsor: Montgomery Amateur Radio Club

Website: <https://w4ap.org/marc/hamfest>

12/04/2021 - **Silver Springs Radio Club 2021 Hamfest**

Location: Ocala, FL

Type: ARRL Hamfest

Sponsor: Silver Springs Radio Club

Website: <http://k4gso.us>

For more information: <http://www.arrl.org/hamfests-and-conventions-calendar>

When searching by division, remember some states adjacent to GA are in different divisions:

Southeastern: GA, AL, FL Delta: TN Roanoke: NC, SC

GARS Events Calendar for 2021		GARS Recurring Calendar
<a href="#">TechFest</a> Dog Show Fundraiser <a href="#">Georgia QSO Party</a> North metro area Fox Hunt Spring Technician HamCram <a href="#">Memorial Day Parade</a> <a href="#">ARC/KARC Hamfest</a> <a href="#">Field Day</a> Summer General HamCram Fall Technician HamCram <a href="#">JOTA</a> Technician HamCram <a href="#">Maker Faire</a> <a href="#">Stone Mt. Hamfest</a> Holiday Party	Cancelled for 2021 April 1-4 2021 April 10-11 2021 April 2021 April 2021 May 31 2021 Cancelled June 26-27 2021 July 24-25, 2021 TBD October 16-17 2021 October 23-24, 2021 TBD November 6-7 2021 December 14 2021	<ul style="list-style-type: none"> <li>2nd Tuesday of the month at 7 pm (except December): Monthly Club Meeting (in-person location 690 Airport Rd, Lawrenceville, GA 30046)</li> <li>3rd Tuesday of the month at 7 pm (except December): Monthly Workshop (in-person location 690 Airport Rd, Lawrenceville, GA 30046)</li> <li>2nd Sunday of the Month at 2 pm  <a href="#">GARS Ham Exam Session</a>            690 Airport Rd            Lawrenceville, GA 30046</li> <li>Every Monday at 7:30 pm: GARS Want, Swap, Sell, and Information Net on the GARS 147.075 MHz repeater</li> <li>Every Monday at 8:30 pm: ARES Training on the GARS 147.075 MHz repeater</li> <li>Most Saturdays at 7:30 am :            GARS Weekly Breakfast            Cracker Barrel Restaurant            75 Celebration Dr., Suwanee, GA 30024</li> </ul>

## GARS CALENDAR FOR November 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1  7:30 – 8:00 PM GARS 2M Net	2  7:00 PM GARS Exec Meeting (Online)	3	4	5	6  Breakfast at Cracker Barrel in Suwanee 7:30 AM  Stone Mountain Hamfest
7  Stone Mountain Hamfest	8  7:30 – 8:00 PM GARS 2M Net	9  7:00 PM GARS Meeting EAA 690 Hanger	10	11	12	13  Breakfast at Cracker Barrel in Suwanee 7:30 AM
14  GARS VE Exam Session EAA 690 Hanger 2:00 PM	15  7:30 – 8:00 PM GARS 2M Net	16  7:00 PM GARS Workshop EAA 690 Hanger	17	18	19	20  Breakfast at Cracker Barrel in Suwanee 7:30 AM
21	22  7:30 – 8:00 PM GARS 2M Net	23	24	25	26	27  Breakfast at Cracker Barrel in Suwanee 7:30 AM
28	29  7:30 – 8:00 PM GARS 2M Net	30				



## Local Ham Radio Exams & Meetings

### Local Ham Radio Exams

[Please check with each session contact for current status.—Ed.]

*GARS publishes Metro Atlanta VE exam schedules as a service and is not responsible for errors or changes. Call and confirm schedules before going. All sessions are walk-in, unless otherwise noted. Take copies of current license and certificate of completed elements with you to all sessions. Find additional sessions online at <http://www.arrl-ga.org>*

#### First Sunday, ODD Months

2 pm (Jan, Mar, May, Jul, Sep, & Nov)

VEC: WCARS

Braselton Public Utility Building

4986 Highway 53, Braselton, GA

Contact: Nat Christman K4VQ, 678-371-7103

[christmans30680@gmail.com](mailto:christmans30680@gmail.com)

#### First Sunday, EVEN Months

2 pm (Feb, Apr, Jun, Aug, Oct, Dec)

VEC: WCARS

Hall County EOC

470 Crescent Dr. Gainesville, Ga.

Contact: Perry Roper, KO4RD

(770) 536-3056

#### Second Saturday

10:00 AM

Alpharetta North Park, Adult Activities Center

13450 Cogburn Rd, Alpharetta, GA 30004

Contact: Ian Kahn, KM4IK

E-mail: [km4ik.ian@gmail.com](mailto:km4ik.ian@gmail.com)

#### Third Saturday, ODD Months

VEC: ARRL

9:30 am (Walk-ins welcome)

Stone Mountain Masonic Lodge

840 VFW Drive

Stone Mountain, GA 30083

Contact: Frank Haynes, KV4SP

Email: [fhaynes@vatmom.net](mailto:fhaynes@vatmom.net)

(678) 467-3712

#### First Sunday, EVEN Months

VEC: WCARS and W5YI

2 pm @ Barrow Co. Emerg. Serv. Bldg

66 McElroy Street

Winder, GA 30680

Contact: Mike Wolcott, W4WYI

(404) 281-6581

E-mail: [W4WYI@ARRL.net](mailto:W4WYI@ARRL.net)

#### Fourth Tuesday

ARRL VEC

7 pm @ United Way Service Center

6279 Fairburn Rd., Douglasville

Contact: Jessie Clower, KB4WFK

(770) 942-6466

#### Fourth Sunday

2:30 pm Georgia Tech

VanLeer Elec. Building

Rm. W218, 777 Atlantic Dr.

For more information go to [www.w4aql.com](http://www.w4aql.com) and click on "Test Sessions"

### GARS Ham Radio Exams

#### Second Sunday of the month

VEC: W5YI

2 pm At the EAA 690 Airport Hanger

We had another good exam session on Sunday, 10/10/2021. Six individuals tested and five were successful as follows:

- Five new Technician class
- One upgrade to Amateur Extra class.

Many thanks to the VE's who participated:

- Pam, WB1AKQ
- Dave, W4DTR (CVE)
- Richard, KM4SWL
- Russell, AB4QQ
- James, KX4HA
- Alex, AK4AM
- Steve, WB2OGY
- Frank, KV4SP

- Bill, WR1TR

73, Don, KK4NJM (Co-CVE)

GARS VE Team Leaders

E-mail: [exams@gars.org](mailto:exams@gars.org)

GARS VE Website: <http://gars.org/exams> has location information and testing requirements.

### Local Meetings

[Please check with each club for meeting schedule and method (online, etc.) - Ed.]

#### First Tuesday

Kennehoochee ARC

Fire Station #1, Training Room

112 Haynes Street, Marietta, GA

Meeting begins at 7:00pm

Talk In 146.880(-)

#### First Thursday

Atlanta Radio Club

Georgia Red Cross HQ

1955 Monroe Dr., Atlanta, GA

Meeting is at 7:30pm

Talk In -146.820(-)

N.E. Georgia ARC

Commerce Public Library

1344 South Broad Street, Commerce, GA

Meeting is at 6:30pm

Talk In - 147.225(+), PL 123.0

#### Second Monday

Georgia Tech ARC

Room W218

Van Leer Electrical Engineering Bldg.

Georgia Tech Campus

Meeting at 7:00pm

Sawnee Amateur Radio Association

Beaver Toyota

1875 Buford Highway, Cumming, GA

Meeting at 6:30

#### Second Thursday

Alford Memorial Radio Club

Annistown Road Baptist Church

Annistown Rd & Spain Rd

Stone Mountain, GA

Dinner at 6:00pm, Meeting at 7:30pm

Talk In - 146.760(-)

#### Second Saturday

North GA QRP Club

Board Room of The Shepherd Center

2020 Peachtree Rd, NW, Atlanta, GA

at 10:00 AM

#### Third Tuesday

North Fulton Amateur Radio League

Alpharetta Recreation & Parks Dept.

Alpharetta Adult Activity Center

13450 Cogburn Road, Alpharetta, GA

meeting at 7:30pm

Talk In - 145.47(-)

For more information, go to:

<https://nfarl.org/>

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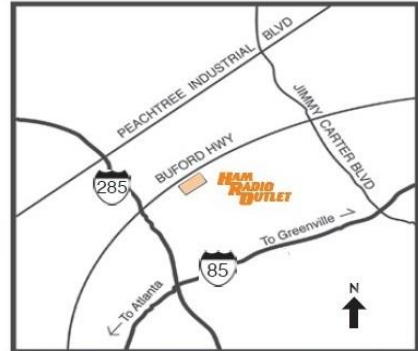
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Email: [atlanta@hamradio.com](mailto:atlanta@hamradio.com)

Toll Free Numbers:

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